REMARKS

With the above amendments, claims 17, 20, and 24 are amended. This leaves claims 17-21, 23-24, and 26-31 pending, with claims 17, 20, and 24 being independent.

I. Entry of Amendments

Applicant has amended claim 17 to cure a minor informality. Applicant has also amended claims 17, 20, and 24 to more explicitly recite limitations regarding an issue which Applicant previously presented arguments. Since arguments were presented regarding these limitations, Applicant believes no new issues are raised by these amendments, and entry of the amendments is respectfully requested.

II. Rejection under 35 U.S.C. § 112

In the Office Action, the Examiner rejected claims 17-19 under 35 U.S.C. § 112 as being indefinite due to a lack of antecedent basis for the limitation "the discharge tube" in claim 17. Claim 17 has been amended to cure the noted issue. Accordingly, the rejection has been obviated, and Applicant requests withdrawal of the rejection.

III. Rejections under 35 U.S.C. § 102(b) and 103(a)

After the above claim amendments, claims 17-19 and 26-27 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,726,021 to Kennedy et al. Claims 20-21, 23-24, and 28-31 stand rejected under 35 U.S.C. § 103(a) as being obvious over the Kennedy et al. patent and U.S. Patent No. 3,843,060 to Coburn.

Applicants have amended independent claims 17, 20, and 24 to address the rejections. Applicants assert that claims 17, 20, and 24, and their dependent claims, are now allowable.

As amended, independent claim 17 requires the steps of providing "at least one mixed particulate material separating apparatus including a separating chamber and an angle of entry connection, the angle of entry connection being angled upwardly with respect to the separating chamber;" and "creating a vacuum which provides suction to the separating chamber to draw mixed particulate material into the separating chamber through the angle of entry connection so that the mixed particular material has both upward and horizontal velocity components, the

horizontal velocity component being sufficient to cause the mixed particulate matter to strike a wall of the separating chamber."

As explained in Applicant's specification, the mixed particle material enters the separation chamber 4 through the angle of entry connection 26. *See* para. [0030]. The angle at which angle of entry connection 26 makes with respect to separation chamber 4 is important for proper functioning of material separator 100. If, for example, the angle between angle of entry connection 26 and separation chamber 4 is 90°, then little or no material would travel up separation chamber 4. This results because the vacuumed material 32 travels straight into separation chamber 4 and strikes the opposite wall; the vacuumed material 32 has no upward velocity vector. On the other extreme, if the angle between angle of entry connection 26 and separation chamber is 0° (i.e., pointing straight up), then it is possible that no separation of material will occur, as the material with higher specific gravity (i.e., the bullets) do not strike the inner wall of separation chamber 4 which causes them to slow down, and thus do not fall onto automatic unloader valve 20. *See* para. [0031].

Therefore, because the angle of entry connection 26 is at an angle to separation chamber 4, vacuumed material 32 will have both an upward and horizontal velocity component, and the vacuumed material 32 will strike against the inner wall of the separation chamber 4. This causes the vacuumed material 32 to slow down somewhat, allowing the lower specific gravity material 34 to continue up the separation chamber 4, and the higher specific gravity material 28 to fall to the bottom 5 of the separation chamber 4. The lower specific gravity material 34 is then expelled out of the separation chamber 4. The higher specific gravity material 28 collects in the bottom of the separation chamber. *See* para. [0032]

Claim 17 stands rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent No. 6,726,021 to Kennedy et al. The Examiner alleges that the Kennedy et al. patent discloses a method of separating mixed particles of at least two different specific gravities using an apparatus with a separating chamber (13) and an angle of entry connection (near curved output end 11).

In contrast to Applicant's invention, however, the Kennedy et al. patent does not have an angle of entry connection which is angled upwardly with respect to the separating chamber. As seen in, for example, Figure 1 of the Kennedy et al. patent, the discharge of the stopper director 11 is aligned with the separation chamber 13. That is, the discharge of the stopper director 11 is

at a 0° angle with respect to the separation chamber 13. Accordingly, the stopper director 11 is not angled upwardly with respect to the separating chamber, and therefore, does not disclose an angle of entry connection.

Furthermore, because the stopper director is aligned with the separation chamber 13 of the Kennedy et al. patent, any mixed particulate matter that enters the separation chamber has no horizontal velocity component. Rather, as discussed by the Kennedy et al. patent, "[t]he stopper director is connected to the loose end of the stopper inlet tube, and serves the function of directing stoppers up into the cyclone separator tube. The upward directional flow of the stoppers allows the vacuum force to pull and swirl the stoppers up in the tube so that fine debris is removed therefrom." Col. 4, lines 5-10. Thus, the Kennedy et al. patent specifically teaches that the material is directed upward. There is no indication that the material has any horizontal velocity component.

In support of the rejection, the Examiner states that Fig. 1 illustrates that the curved output end of stopper inlet tube 11 creates an angle of entry connection of about 45 degrees as evidenced by the particle discharge path and flow arrow. It is legally impermissible to attempt to establish precise dimensions or the like from patent drawings. "[I]t is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue." *Nystrom v. Trex Co., Inc.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005). Here, the specification of the Kennedy et al. patent is silent regarding the purported angles cited in support of the rejection, and the drawing is merely a schematic illustration. Thus, is it improper to attempt to establish a precise angular range using the drawings alone. Moreover, even if it were permissible to do so, Applicant respectfully disagrees with the interpretation of the Figure 1. The illustrated particles in the separator tube 13 do not appear to have any particular path, and appear to be randomly located. Indeed, there are particles both above and below the stopper inlet tube 11, which indicates that the drawings do not intend to show a particular discharge path. Similarly, the flow arrows appear to be nothing more than a schematic indication of air swirling in the separation tube, and nothing in the specification indicates that the flow arrow located nearest the stopper inlet tube is meant to show a precise discharge angle from the stopper inlet tube.

Thus, the Kennedy et al. patent does not disclose, nor does it suggest, the steps of providing "at least one mixed particulate material separating apparatus including a separating

chamber and an angle of entry connection, the angle of entry connection being angled upwardly with respect to the separating chamber;" and "creating a vacuum which provides suction to the separating chamber to draw mixed particulate material into the separating chamber through the angle of entry connection so that the mixed particular material has both upward and horizontal velocity components, the horizontal velocity component being sufficient to cause the mixed particulate matter to strike a wall of the separating chamber."

With respect to claims 26 and 27, these claims depend from claim 17, and are allowable for the above-discussed reasons. Furthermore, these claims relate to specific angles between the angle of entry connection and the separation chamber. As discussed above, stopper director 11 is parallel to the separation chamber 13, and therefore, these limitations are not met. Furthermore, it is improper to rely on the un-scaled patent drawings to attempt to establish particular angles, and the Kennedy et al. patent specification does not disclose any particular angles. Accordingly, these claims are not disclosed by the Kennedy et al. patent, and are allowable.

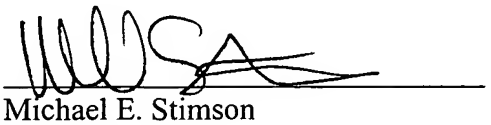
With respect to independent claims 20 and 24, these claims are allowable for substantially the same reasons as claim 17. Namely, the Kennedy et al. patent does not disclose or suggest an "angle of entry connection being angled upwardly with respect to the separating chamber;" and "creating a vacuum to occur whereby mixed particulate material enters the mixed particulate material separating apparatus through the angle of entry connection so that the mixed particular material has both upward and horizontal velocity components, the horizontal velocity component being sufficient to cause the mixed particulate matter to strike a wall of the separating chamber." Thus, these claims, as well as their dependent claims are allowable.

IV. Conclusion

In view of the above, it is believed that the above-identified application is in condition for allowance, and notice to that effect is respectfully requested. Should the Examiner have any questions, the Examiner is encouraged to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

Date: June 15, 2006



Michael E. Stimson
Reg. No. 41,333
Attorney for Applicant

Roylance, Abrams, Berdo & Goodman, L.L.P.
1300 19th Street, N.W., Suite 600
Washington, D.C. 20036-2680
Main: (202) 659-9076
Direct: (202)530-7372